How to Wire a 7274A for Use with Model 136

Tech Note

The model 136 can be used to power the 7274a triaxial accelerometers. It can also be used with models 73 and 75, though they are typically mounted to a printed circuit board and battery powered.

First, you will need to measure the input resistance (or obtain the value from the calibration certificate) of the sensor to be connected to the model 136. See the attached wiring diagram to determine the resistor values for R1 and R2 – the table on the right side. (The wattage values for these resistors are chosen to provide short circuit protection. Note that the voltage excitation can be either 5 or 10 VDC, and appropriate resistor values required.)

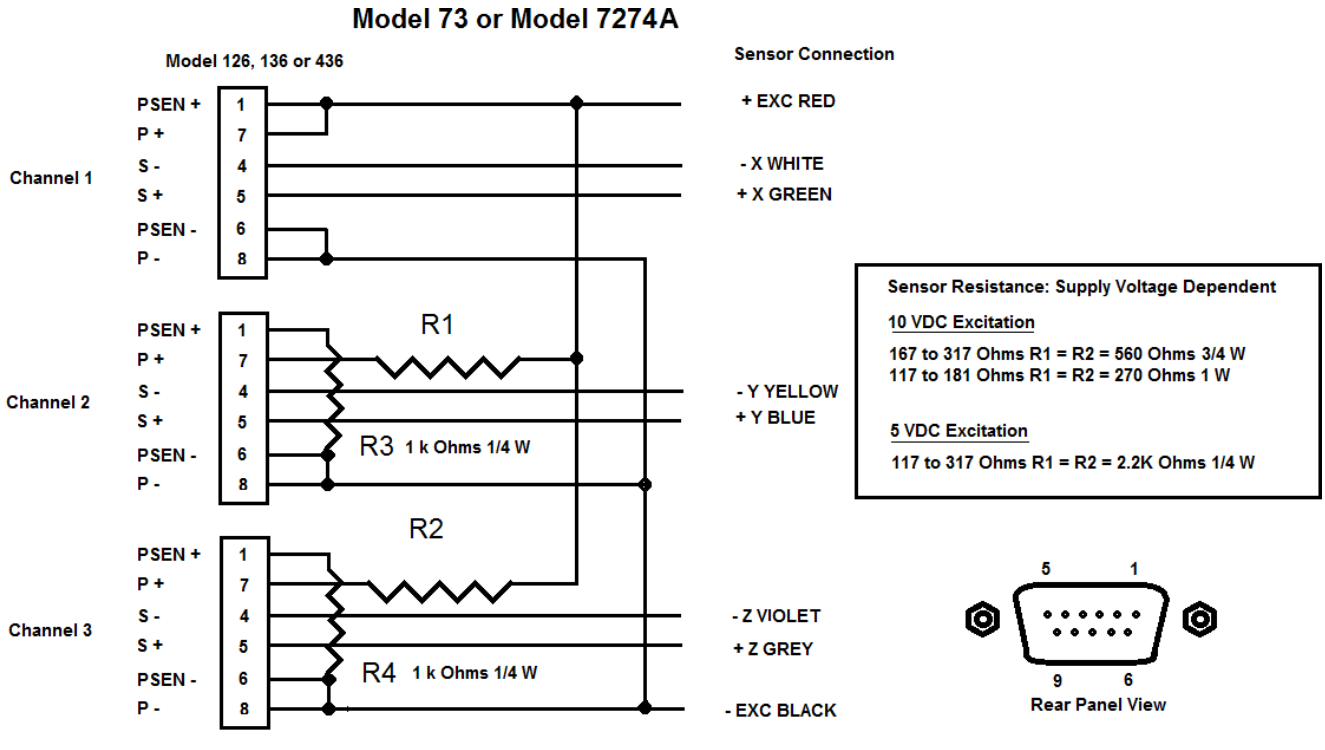
Wire the input 9-pin D connectors as shown below. The photo shows the resistors can be housed within a 9-pin D connector back shell, providing strain relief, handling protection and connection ease.

(Wiring Diagram Explanation: The wiring diagram shown, sources maximum current from channel 1. R3 and R4 provide feedback to each channel's voltage regulator to maintain either 5 volts or 10 volts at their outputs. R1 and R2 limits channel 2 and channel 3's current, providing a combined current output of approximately 80 mA to the sensor.)

(Note: This diagram is applicable for wiring Models 126, 136 and 436.)

The 7274A has an input resistance of 217 ± 100 Ω. In the note below, the "167 to 317 Ohms", "117 to 181 Ohms", and "117 to 317 Ohms" are referring to the input resistance.

Though pin 9 is not shown connected to the cable shield from the sensor, it is best to connect it for best shielding of the cable from AC power noise.



For 10 VDC Excitation:

If the input resistance of the UUT is between 167 to 317 Ohms, then use 560 Ohm ¾ W resistors for R1 and R2.

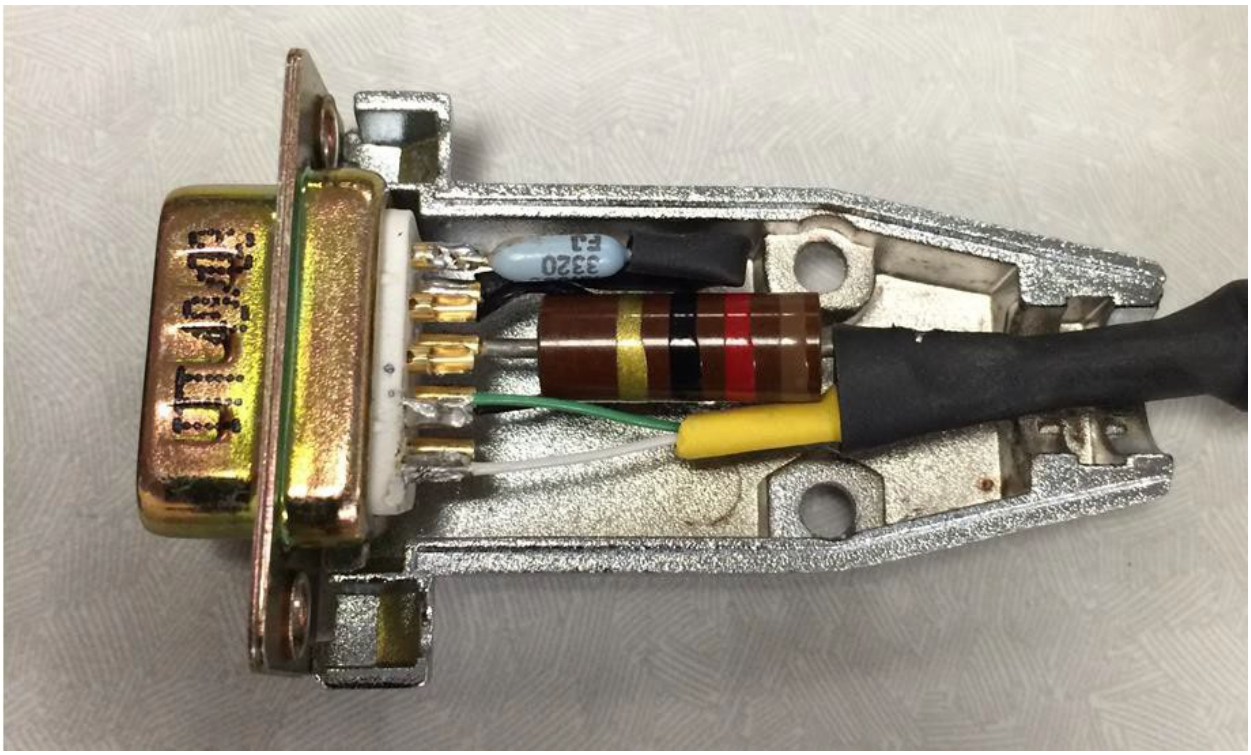
If the input resistance is between 117 to 181 Ohms, then use 270 Ohm 1 W resistors for R1 and R2.

For 5 VDC Excitation:

If the input resistance is between 117 to 317 Ohms (i.e. within spec), use 2.2k Ohm ¼ W resistors for R1 and R2.

The input resistance is stated on the calibration certificates that come with the units, but the customer should double-check for themselves by measuring resistance between the red and black leads.

Note: The above only applies to the 7274A. There is no need to add any resistors before the 136 with Model 7284.



Photo

The above photograph is for wiring connectors for inputs to channels 2 and 3. It does not depict the correct resistance values used, but it is for wattage size and component placement - a reference only.